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ABSTRACT

A study examined the views of business and industry on the Florida vocational and technical education system. Representatives from 284 Florida firms and 44 supervisors completed interviews based on two project-developed questionnaires. Sought in the questionnaires were employer perceptions concerning the following areas: awareness of vocational and technical programs available in given geographical areas, contact with the programs, ratings of the programs, job performance of completers of vocational programs, degree of cooperation between business and industry and the vocational education system, and suggestions for improving cooperation. While most employers rated Florida's vocational education system as good or excellent, the extent of contact between persons responsible for hiring and the local vocational education system is less than might be expected. Employer perceptions of the state's vocational system also varied according to geographical area and type of industry with those in the southwest and northwest areas of the state and those in manufacturing and service industries having the most favorable impressions of the system. The most popular suggestions for improving vocational education was to increase employer impact and the least popular suggestion was to reduce or eliminate programs. (MN)

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A STUDY OF VOCATIONAL EDUCATION AS VIEWED BY BUSINESS AND INDUSTRY

by

Ronald R. Schultz
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The Project (0-6003) herein was conducted for the Florida State Advisory Council on Vocational and Technical Education pursuant to a grant administered by the Florida Department of Education. Contractors undertaking such projects are encouraged to express freely their professional judgments in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent the official position or policy of the Florida Department of Education or the Florida State Advisory Council.

August, 1981

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DEPARTMENT OF ECONOMICS

July 24, 1981

Dr. Howard Suzuki, Chairperson
Florida State Advisory Council on
Vocational and Technical Education
W. V. Knott Building
Tallahassee, Florida 32304

Dear Dr. Suzuki:

This document is submitted as a report of a project conducted for the Florida State Advisory Council on Vocational and Technical Education. The report represents the findings of a statewide survey of employers in order to obtain their views of public vocational education in the State.

It is our hope that this report will be helpful to all who are concerned with strengthening Florida's vocational programs, services, and activities.

Sincerely,

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While all these individuals contributed to this report, responsibility for all errors rests with the authors.

Ronald R. Schultz

Willaim B. Stronge

July 1981
Boca Raton, Florida

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CHAPTER 1. INTRODUCTION

Enrollment in vocational education (VTE) at all levels in Florida during fiscal year 1979 was over one million students, continuing an upward trend since 1974 (Florida State Advisory Council on Vocational and Technical Education, 1980). While not all enrollees have a specific job in mind, there can be no doubt that a major goal of the Vocational Educational System is to provide an adequate supply of trained manpower for the state's economy. Ancillary to this is an assessment of the extent to which funding, facilities, and personnel are available and utilized to enable the VTE system to meet the labor market needs of the state.

A series of studies funded by the Florida State Advisory Council on Vocational and Technical Education have performed an evaluation of the VTE delivery system in the major urban areas of the state. Fishkind et al (1976, 1977) have made an evaluation of the Jacksonville and Tampa Bay area; Stronge and Schultz (1979) studied the Palm Beach, Broward and Dade areas. Thses studies were comprehensive in scope, covering students, teachers, administrators and employers. Thus, limited resources were available for gathering employer feedback. There was a need to supplement these studies with a detailed study of employers to ascertain their familiarity with the system and their evaluation of its completers.

Comments made by persons representing business and industry often focus on the need for better communication between education and business/industry. A selection of their comments in the Florida context

can be found in the Annual Reports of the Florida State Advisory Council (see especially the 1980 report, p. 98). Some of the comments seem to indicate a lack of knowledge on the part of business and industry as to what vocational programs are offered and where they are being offered.

Lack of familiarity with vocational education is not the only concern expressed by business/industry. There is some indication from business and industry that vocational education programs lack the flexibility to respond to rapidly changing training needs. In addition, some businesses seem to prefer establishing their own company training programs rather than having to possibly retrain vocational graduates who might have been trained on obsolete or inadequate equipment.

This report contains the results of a study designed to obtain the views of business and industry of the Florida Vocational and Technical Education System. Of particular interest was the extent to which Florida employers were aware of the vocational and technical programs available in their geographic area, the extent to which they had contact with the programs, and their ratings of the programs with which they were familiar. A second area of interest was the evaluation by business and industry of the job performance of completers of vocational programs in comparison with other employers who have not completed such programs. Finally, employers were asked about the degree of cooperation between business and industry and the vocational education system, and their suggestions on how cooperation might be improved.

Previous Studies

A major study of the relationship of publicly funded skill training and commerce and industry was undertaken for the state of Illinois 1978-79. Among the conclusions were the following:

> Although commerce and industry is generally represented on advisory councils, the results of this study indicate that commerce and industry is also interested in a more active role such as providing schools with their needs (i.e., job descriptions), feedback on recent graduates, and participating in instructor/employee exchange programs...[1]

> Employers are overwhelmingly concerned about, and critical of, the lack of basic communication skills such as reading, writing, and verbal articulation possessed by today's students and recent graduates. Many employers, particularly those with entry level positions, are willing to train individuals with no formal skills provided they have mastery of the English language and demonstrate a willingness to learn.

> Several conditions were cited as major contributions to this problem such as public school teachers and administrators are not presently held accountable for their effectiveness and, therefore, are not motivated to improve the quality of graduates and the learning process is not directly related to the job market because teachers and counselors are poorly prepared to instruct and guide students in current job skills due to their lack of contact with the business world.[2]

In the Florida context, Fishkind and Milliman (1977) conducted a workshop in the Jacksonville area in order to obtain the views of business and industry on the VTE system. They found that communication between business and industry and the VTE system could be improved.

[1] Dotson and Associates, 1979, p. 4.

[2] Ibid., p. 9.

> ...rarely are business and industry personnel officers directly and routinely queried as to their needs with regard to VTE programs, or as to their opinions about VTE graduates. As a result little effective information is available on business and industry needs.[3]

The Fishkind and Milliman study was based on a small group of employers in a single area of the state. The sample was not drawn randomly in any sense, and so the validity of their results are uncertain. Their intention, of course, was to test a mechanism for improving communication rather than to obtain the definitive views of business and industry on vocational and technical education.

A study by the Florida State Advisory Council in 1978 was concerned with the effectiveness of local vocational advisory committees. (Florida State Advisory Council on Vocational and Technical Education, 1979). Such committees contain business employers and are intended to advise the relevant vocational program on how to meet student and industry needs. The study used a statewide survey of a stratified random sample of committee members. A total of 380 questionnaires were mailed out, and 63 percent of these were returned and usable for analysis. A distinction was drawn between general and specialized committees.

> General advisory committees were defined as concerned with the total vocational and technical education program in a college or district. Specialized committees were defined as being concerned with a particular trade, field or cluster of occupations.[4]

The principal finding of the study was as follows:

[3]Fishkind and Milliman, 1977, p. 123.

[4]Ibid., p. 1.

> A major purpose of the survey was to determine the extent to which local advisory committees were performing advisory activities related to three categories: planning, implementation, and evaluation. This determination was made by listing a series of activites related to the three categories and asking persons surveyed to check off those items their committee performed,... The data seem to clearly indicate a lack of involvement on the part of the committees in the three categories of planning, implementation and evaluation.[5]

In a study undertaken for the Florida State Advisory Council in 1978-79, Stronge and Schultz (1979) conducted a mail survey of employers. The purpose of this survey was to obtain the opinions of employers on the quality of their employees who had come from vocational education programs. The sampling frame consisted of the Florida Directory of Industries, Advisory Committee Directories, and the Florida Department of Business Regulation's list of licensed hotels, motels, and restaurants. Only employers in the Gold Coast region were sampled.

A total of 786 questionnaires were mailed and postpaid return envelopes were included. The 125 usable responses represented a disappointing 15.9 percent response rate. A random sample of 220 of the nonrespondents was chosen for a second mailing and 21 additional questionnaires were received. The only difference between the two groups was their degree of contact with the vocational system. A higher proportion of the first group of respondents had been in contact with the vocational system. This observation that the response rate is higher the more contact an individual had with the VTE system

[5]Ibid., p. 5.

provides the explanation for why the response rate on the Schultz and Stronge study was so much lower than the Council Study of Advisory Committees. The results of the Schultz and Stronge study were as follows:

> ...employers were asked to evaluate the basic skills of students from vocational programs. Over 70 per cent rated these skills adequate or excellent, with a slightly higher percentage rating the reading and communication skills excellent than the per cent who gave a similar rating to numeric skills... Over 80 per cent of the employers rated the vocational students as having adequate or excellent equipment familiarity, technical competence and work habits.... A relatively high proportion of employers rated the work habits of professionals and sales workers as high, but rated the work habits of clerical workers as poor. Craft and sales workers came in for an unusual degree of criticism in terms of their familiarity with the equipment they needed to use, and the technical competence of clerical and craft workers was similarly downgraded.[6]

These previous studies of the views of business and industry of the vocational education system in Florida were insufficiently comprehensive because they focused on a limited number of employers -- either those from a particular region and/or those connected with the vocational education system. This report outlines a statewide study of employers regardless of their connection with the vocational system.

Outline of the Report

Before analyzing the results of the statewide survey, this report provides an analysis of the two formal means by which employer input is currently obtained for vocational planning. The first of these is

[6]Stronge and Schultz, 1979, p. 109

the student follow-up survey and chapter two describes the Spring 1980 sample and presents a summary of the results. The other means of obtaining employer input is through vocational advisory committees. The last part of chapter two briefly reviews the Florida State Advisory Council study of the effectiveness of such committees referred to above.

Chapter three of this Report outlines the methodology of the survey undertaken for this study. The first section contains a description of the procedures used to select the employers interviewed. This is followed by a discussion of the design of the survey instruments and concludes with a summary of the questions on the instruments.

A description of the sampled firms is provided in chapter four. Included is a breakdown of the sampled firms by region, industry and size. Most respondents were personnel officials and were relatively new to their positions. Also included is an analysis of their degree of contact with the vocational education system.

The final chapter of the Report presents the evaluation by those interviewed of vocational education, and their suggestions for improvement. The chapter concludes with an analysis of the supervisor data.

Principal Findings and Conclusions

The following findings and conclusions were made during this study

(i) Almost 80 percent of employers interviewed had an opinion about the extent to which vocational education meets their labor force needs. Most of these rated the system good or excellent but one in three rated the system as fair or poor. It should be noted that the employers interviewed came from the larger firms in the state.

(ii) The extent of contact between the person most responsible for hiring and the local vocational education system is less than might be expected in these larger firms. A high proportion of respondents had never been in contact with a vocational teacher or administrator. Over fifty percent of the respondents did not belong to an organization with a member on an Advisory Committee. Contacts through other programs (Career Days, Industry Organizations) also did not involve a majority of the employers. Almost 70 percent of those interviewed, however, believed that they had adequate opportunity to get involved.

(iii) A high proportion of personnel officials interviewed are relatively new to their jobs. This may be one factor in explaining their low level of contact with vocational education, and the 20 percent who had no opinion about vocational education.

(iv) Employers interviewed in the Southwest and Northwest areas of the state are very favorable to vocational education, whereas those in the Southeast are more negative than are other employers. This appears to reflect the industry breakdown of the sample in this study. The Southwest sample contained relatively many firms from the most favorable industries while the opposite was true of the Southeast.

(v) The most significant finding is the difference in employer evaluations by industry. The number of interviews was only sufficient to provide acceptable estimates for three industries: manufacturing, finance, insurance and real estate, and services. A much higher percent of service employers gave

a good or excellent rating than was true for industry as a whole. Employers in finance, insurance and real estate were less favorable in their evaluation. Large manufacturing firms tend to give a positive evaluation, while midsized firms are more critical.

(vi) The degree of involvement by employers appears to be the most critical determinant of their evaluation of public vocational education. The most favorable industry, services, contains a large number of hospitals and other medical enterprises where involvement in vocational training is much more extensive than other industries. The students receive on site training in the enterprise at the same time they receive classroom training. Such collaboration between employers and the vocational system is not found in most other industries. A similar approach might make vocational education much more effective in those other industries. A pilot program for industrial occupations with some manufacturers ought to be developed along these lines.

(vii) The most popular suggestion for improving vocational education was to increase employer input, and the least popular suggestion was to reduce or eliminate vocational programs. Many employers would like to expand existing programs, and to add additional programs in vocational education. At the same time, they feel that basic educational skills should be improved, particularly reading and writing. They would also like to see better work habits in vocational completers. Fewer than one in

four employers was critical of the technical training of such students.

(viii) Employer suggestions differed substantially by industry. Those in the industry giving the lowest evaluation to vocational education, finance, insurance and real estate, made the most suggestions. In addition to more employer input, those interviewed in this industry were particularly concerned about improving basic education skills and work habits. Manufacturing firms also wanted more input but they were also concerned about the availability of appropriate programs. The industry most positive about vocational education, services, were the least concerned about employer input. They favor a change in program offerings and improved training.

(ix) A small survey of supervisors showed that they considered Florida vocational education completers to be more familiar with required equipment than are other employees. Completers were also regarded as more technically competent than other employees. In terms of the primary mission of vocational education, therefore, this sample of supervisors gives the system a relatively good rating. The vocational skills of completers are superior to those of other employees.

(x) The favorable rating for vocational completers is not unanimous in the case of broader work performance, namely, work habits and basic educational skill. Business and distributive employees rate more poorly than other such employees. An examination of the basic education requirements for such

employees appears to be warranted, since these findings tie in with the somewhat negative ratings by the finance, insurance and real estate industry reported above.

(xi) The current methods by which employer input is obtained for Florida public vocational education appear to be inadequate. The student follow-up survey is based on an unsatisfactory statistical design and provides little information that would be useful for vocational planning. An intensive survey of a small random sample of completers and their employers conducted over a period of years appears to merit consideration as an alternative approach. The vocational advisory committees appear to be ineffective and a study of the involvement of their members in hiring needs to be undertaken. Do employers serve on the committees as a public service or a company service?

(xii) This survey was confined to the larger employers in the state. The results suggest that views of vocational education differ by the size of the firm so that the results presented here cannot be extrapolated to all firms. At the same time it has been shown that smaller employers frequently have insufficient evidence on which to base an overall evaluation of the system. Collection of information from small firms will be expensive. If a pilot study is to be undertaken, the results of this research suggest that it should be confined to a limited number of industries, since the greatest variation in views occurs across different industries.

CHAPTER 2. EMPLOYER INPUT TO VOCATIONAL EDUCATION

There are two major means by which employers from business and industry can provide input to public vocational education in Florida. The first is the student follow-up survey undertaken by the school districts and areawide centers. Students are asked to give permission to have their employers send a questionnaire and the latter are asked to evaluate the student's performance and program. An analysis of these follow-up results is given in the first sections of this chapter.

The other means of obtaining employer input is through the network of Vocational Education Advisory Committees. These Committees can have a general advisory role providing input on overall policy, or clusters of programs. A recent study by the Florida State Advisory Council of the effectiveness of these committees is reviewed in the last section of the chapter.

Data Collection from the Student Follow-up Survey

As part of the regular student follow-up survey, high schools and areawide vocational centers obtain the evaluation by employers of the job performance and vocational training of a subsample of completers of Florida public vocational programs. This section of the chapter describes the characteristics of the completers who were evaluated by their employers in the Spring 1980 Follow-up Survey.

The Follow-up Survey is conducted in two stages. First, a survey instrument is sent to all completers in order to obtain information about their work experience since finishing the vocational program.

One of the questions on the instrument asks for permission to contact the respondent's employer. A second survey instrument is mailed to each employer for whom permission is granted. This latter instrument seeks the employer's evaluation of the work performance and vocational training of the employee.

The Spring 1980 Survey was mailed to 58,517 completers (Table 2.1). Of these 36,902 or 63 percent had completed programs at the secondary level, and the remainder had completed post-secondary programs. Almost one-third of the students had completed programs in the business area, and another one-third had completed programs in the distributive and industrial areas. The remainder of the students completed a variety of programs including the agricultural, health and public service occupations.

Overall 45.9 percent of completers who were mailed questionnaires returned them (Table 2.2). The highest response rates were in the health and public service areas. The lowest response rates were in DCT and Special Courses program areas. Adults had a slightly greater tendency to return the questionnaires than did those who completed secondary level courses.

Overall 21.5 percent of the completers granted permission to have their employers surveyed (Table 2.3). Once again the greatest cooperation was received from the public service and health completers. The permission rate was much the same for secondary and adult completers.

Those employers, for whom permission was obtained, were mailed questionnaires and about fifty percent of them provided responses

TABLE 2.1

COMPLETERS OF VOCATIONAL PROGRAMS IN THE SCHOOL DISTRICTS

	All Students		Secondary		Adult	
	Number	Percent	Number	Percent	Number	Percent
Agriculture	1,824	3.1	1,535	4.2	289	1.3
Business	18,455	31.5	13,752	37.3	4,703	21.8
DCT	4,177	7.1	4,116	11.1	61	0.3
Distributive	8,959	15.3	4,845	13.1	4,114	19.0
Home Econ. Gainful	3,205	5.5	2,478	6.7	727	3.4
Health	4,512	7.7	1,128	3.1	3,384	15.7
Industrial	12,079	20.6	4,814	13.0	7,265	33.6
Job Entry	3,710	6.3	3,709	10.0	0	0.0
Public Service	885	1.5	193	0.5	692	3.2
Special Courses	681	1.2	302	0.8	379	1.7
Total	58,517	100.0	36,902	100.0	21,615	100.0

Source: Florida Division of Vocational Education. Computer Printout of Student Follow-up Survey.

TABLE 2.2

RESPONSE RATES TO THE STUDENT FOLLOW-UP SURVEY

	All Students		Secondary		Adult	
	Responses	Response Rates[a]	Responses	Response Rates[a]	Responses	Response Rates[a]
Agriculture	809	44.3	659	42.9	150	51.9
Business	8,609	46.6	6,499	47.3	2,110	44.9
DCT	1,462	35.0	1,441	35.0	21	34.4
Distributive	3,490	39.0	2,052	42.3	1,438	35.0
Home Econ. Gainful	1,551	48.4	1,217	49.1	334	45.9
Health	2,602	57.7	552	48.9	2,050	60.6
Industrial	6,046	50.0	2,366	49.1	3,680	50.6
Job Entry	1,588	42.8	1,588	42.8	0	0.0
Public Service	530	59.9	146	75.6	384	55.5
Special Courses	162	23.8	102	33.8	60	15.8
Total	26,879	45.9	16,652	46.1	10,227	47.3

[a]Number of responses divided by number of completers, in percent.

TABLE 2.3

NUMBER OF PERMISSIONS TO SURVEY EMPLOYERS

	All Students		Secondary		Adult	
	Number	Rate[a]	Number	Rate[a]	Number	Rate[a]
Agriculture	335	18.4	293	8.9	42	14.5
Business	4,127	22.4	3,061	22.3	1,066	22.7
DCT	821	19.7	804	19.5	17	27.9
Distributive	1,615	18.0	1,003	20.7	612	14.9
Home Econ. Gainful	553	17.2	451	18.2	102	14.0
Health	1,276	28.3	252	22.3	1,024	30.3
Industrial	2,649	21.9	1,117	23.2	1,532	21.1
Job Entry	833	22.4	833	22.5		
Public Service	290	32.8	82	42.5	208	30.1
Special Courses	57	8.4	31	10.3	26	6.9
Total	12,575	21.5	7,946	21.5	4,629	21.4

[a]as percent of total completers

(Table 2.4). Thus, employer evaluations were received for 10.8 per cent of the completers. These response rates were about the same for secondary and adult completers, and the highest rates were for public service and health programs.

A relatively small percent of completers were no longer employed by the respondent, so that the survey ended up with evaluations on slightly less than 10 percent of the completers (Table 2.5). The total sample of 5,813 is sufficient for analysis but there are serious questions about its validity. It seems likely that the selection of employers based on permissions obtained from completers will be biased, because the most successful completers will be the most likely to grant permission. In addition, unsuccessful completers may not even be employed so that no permission can be granted.

Employer Responses on the Follow-up Survey

Employers are asked to evaluate the work performance and vocational training of completers on a five part scale ranging from excellent to unsatisfactory. The seven questions asked of the respondents are given in Table 2.6. The percentage breakdown of responses for each of the seven questions over all the responses are given in Table 2.7. Over fifty percent of the respondents rated the completers as above average or excellent on each of the seven questions, and fewer than five per cent rated them as below average or unsatisfactory. The lowest ratings were on the technical training and reaction to criticism questions. The highest rating was on the ability to work well with others.

TABLE 2.4

NUMBER OF EMPLOYER RESPONSES

	All Students		Secondary		Adult	
	Number	Rate[a]	Number	Rate[a]	Number	Rate[a]
Agriculture	151	8.3	137	8.9	14	4.8
Business	2,307	12.5	1,720	12.5	587	12.5
DCT	428	10.2	420	10.2	8	13.1
Distributive	687	7.7	424	8.7	263	6.4
Home Econ. Gainful	265	8.3	219	8.8	46	6.3
Health	737	16.3	135	12.0	602	17.8
Industrial	1,199	9.9	497	10.3	702	9.7
Job Entry	375	10.1	368	9.9	0	0.0
Public Service	158	17.8	42	21.8	116	16.8
Special Courses	17	2.5	7	2.3	10	2.6
Total	6,332	10.8	3,984	10.8	2,348	10.9

[a]as percent of total completers

TABLE 2.5

NUMBER OF STUDENTS CURRENTLY EMPLOYED BY EMPLOYER RESPONDENTS

	All Students		Secondary		Adult	
	Number	Rate	Number	Rate	Number	Rate
Agriculture	139	7.6	126	8.2	13	4.5
Business	2,148	11.6	1,589	11.5	559	11.9
DCT	391	9.4	385	9.3	6	9.8
Distributive	623	6.9	376	7.8	247	6.0
Home Econ. Gainful	243	7.6	198	8.0	45	6.2
Health	670	14.8	117	10.4	553	16.3
Industrial	1,078	8.9	445	9.2	633	8.7
Job Entry	351	9.5	351	9.5	0	0.0
Public Service	150	16.9	38	19.7	112	16.2
Special Courses	14	2.1	5	1.7	9	2.4
Total	5,813	9.9	3,636	9.9	2,177	10.1

TABLE 2.6

QUESTIONS ASKED OF EMPLOYERS

QUESTION	
1.	What is the quality of this person's work?
2.	In your opinion, how would you rate the technical training of this person for entry level employment?
3.	Please rate this employee on his or her ability to follow prescribed work procedures.
4.	Please rate this employee on his or her adaptation to different work assignment.
5.	Please rate this employee on his or her reaction to constructive criticism.
6.	Please rate this employee on his or her ability to work well with others.
7.	As a result of this person's vocational training, how would you rate his or her preparation in relation to other employees in his or her work group who did not receive such training?

TABLE 2.7

EMPLOYER EVALUATIONS OF COMPLETERS (PERCENT)[a]

	Excellent	Above Average	Average	Below Average	Unsatisfactory	Total
Work Quality	27	44	28	1	0	100
Technical Training	17	41	38	3	0	100
Ability to Follow	29	43	26	2	0	100
Adaptability	27	42	28	2	0	100
Reaction to Criticism	20	35	40	4	0	100
Work with Others	36	39	23	2	0	100
Vocational Training	20	42	35	3	1	100

[a]The first row of the Table indicates that 27 percent of the employers rated the completers being evaluated as excellent, 44 percent rated the completers above average, 28 percent rated the completers as average and 1 percent rated the completers below average in terms of quality of work.

The results did not differ substantially between secondary and adult completers (Tables 2.8 and 2.9). Once again, more than fifty percent of the completers were rated above average or excellent. An insignificant percentage were rated below average or unsatisfactory.

Employer evaluations were also available by program. Since the shape of the distributions of employer responses across programs and questions were so similar it was decided to summarize the distributions using a measure of central tendency. The excellent to unsatisfactory scale was converted to a five point numerical scale with 5 = excellent and 1 = unsatisfactory. A weighted average score for each of the seven questions was computed for each program in each institution. The results for all students combined are presented in Table 2.10.

The differences in evaluations by program may reflect different standards by employers, different quality of program completers or both. The results show that distributive and business programs received the highest evaluations, and that industrial and public service programs received the lowest ratings. Further, ability to work with others and to follow work procedures were the most admired qualities of completers and that technical training and response to criticism received the lowest evaluations.

Similar results were found for the program areas at the different institutions (Tables 2.11 and 2.12). The evaluations are so positive that the sample design must be questioned. There must surely be room for improvement from the point of view of employers of vocational completers. Yet the employer follow-up survey provides no information that could lead to such improvement.

TABLE 2.8

EVALUATION OF SECONDARY COMPLETERS (PERCENT)[a]

	Excellent	Above Average	Average	Below Average	Unsatisfactory	Total
Work Quality	27	44	28	1	0	100
Technical Training	17	41	39	3	0	100
Ability to Follow	29	43	26	2	0	100
Adaptability	28	42	28	2	0	100
Reaction to Criticism	20	35	41	4	0	100
Work with Others	37	39	23	1	0	100
Vocational Training	20	42	35	3	1	100

[a]See Table 2.7 for details on interpreting this Table.

TABLE 2.9

EVALUATION OF ADULT COMPLETERS (PERCENT)[a]

	Excellent	Above Average	Average	Below Average	Unsatisfactory	Total
Work Quality	28	43	27	1	0	100
Technical Training	19	41	37	2	1	100
Ability to Follow	29	45	24	2	0	100
Adaptability	26	42	29	3	0	100
Reaction to Criticism	21	34	40	4	0	100
Work with Others	34	39	25	2	0	100
Vocational Training	20	42	35	3	1	100

[a]See Table 2.7 for details on interpreting this Table.

TABLE 2.10

AVERAGE EVALUATION OF ALL COMPLETERS BY PROGRAM [a]

	Quality of Work	Technical Training	Ability to Follow Procedures	Adaptability	Response to Criticism	Ability to Work with With Others	Vocational Training
All Programs	3.97	3.72	3.99	3.94	3.70	4.09	3.78
Agriculture	3.89	3.64	3.89	3.95	3.69	4.11	3.72
Business	4.00	3.76	4.05	3.98	3.77	4.16	3.83
DCT	3.97	3.71	3.98	3.97	3.66	4.11	3.81
Distributive	4.11	3.86	4.15	4.07	3.81	4.16	3.88
Home Econ. Gain	3.90	3.71	3.92	3.87	3.65	4.08	3.72
Health	3.94	3.72	3.95	3.85	3.64	3.96	3.78
Industrial	3.89	3.62	3.87	3.83	3.61	3.99	3.67
Job Entry	4.02	3.74	3.99	4.03	3.69	4.12	3.82
Public Service	3.73	3.60	3.81	3.74	3.51	3.82	3.65

[a]The numbers in this Table represent average scores on a five point evaluation scale. The higher the score the more favorable the evaluation.

TABLE 2.11

AVERAGE EVALUATION OF HIGH SCHOOL COMPLETERS BY PROGRAM[a]

	Quality of Work	Technical Training	Ability to Follow Procedures	Adaptability	Response to Criticism	Ability to Work with With Others	Vocational Training
All Programs	3.96	3.71	3.99	3.95	3.69	4.11	3.78
Agriculture	3.90	3.66	3.88	3.94	3.71	4.13	3.72
Business	3.99	3.73	4.04	3.98	3.73	4.15	3.81
DCT	3.97	3.71	3.97	3.96	3.65	4.11	3.81
Distributive	4.00	3.78	4.05	4.02	3.71	4.13	3.82
Home Econ. Gain	3.89	3.68	3.94	3.87	3.62	4.07	3.67
Health	3.89	3.64	3.93	3.92	3.71	4.05	3.69
Industrial	3.84	3.59	3.83	3.79	3.60	3.97	3.68
Job Entry	4.02	3.74	3.99	4.03	3.69	4.12	3.82
Public Service	3.80	3.69	3.97	3.82	3.72	3.92	3.79

[a]The numbers in this Table represent average scores on a five point evaluation scale. The higher the score the more favorable the evaluation.

TABLE 2.12

AVERAGE EVALUATION OF ADULT COMPLETERS BY PROGRAM[a]

	Quality of Work	Technical Training	Ability to Follow Procedures	Adaptability	Response to Criticism	Ability to Work With Others	Vocational Training
All Programs	3.98	3.75	4.00	3.91	3.72	4.05	3.79
Agriculture	3.86	3.77	3.93	4.00	3.54	3.86	3.71
Business	4.02	3.82	4.08	4.00	3.89	4.20	3.88
DCT	4.29	4.00	4.29	4.43	4.00	4.43	3.71
Distributive	4.28	3.98	4.30	4.15	3.97	4.20	3.98
Home Econ. Gain	3.96	3.81	3.84	3.84	3.78	4.11	3.95
Health	3.95	3.74	3.96	3.83	3.63	3.94	3.80
Industrial	3.92	3.65	3.91	3.86	3.62	4.00	3.66
Public Service	3.70	3.56	3.75	3.71	3.43	3.79	3.60

[a]The numbers in this Table represent average scores on a five point evaluation scale. The higher the score the more favorable the evaluation.

One of the authors of this report has previously used the student follow-up data in a study for the Florida State Advisory Council (Strange and Villemez 1976). The suggestion was made as part of that study that the follow-up survey be redesigned as a panel survey. That is a random sample of completers should be selected each year. Basic data should be collected from them at the time of completion and additional data should be collected from this same group on an annual basis. By building a file on a small number of respondents and tracing their labor force history over a period of years after completion a more accurate picture would be obtained. Further, by focusing on a small sample of completers from the outset, more detailed information could be gathered. This approach to follow-up studies, namely a longitudinal study of a randomly selected small panel of completers, still seems worthwhile.

A Study of Advisory Committees

In 1978, the staff of the Florida State Advisory Council undertook a study of the effectiveness of local advisory committees. Two questionnaires were developed: one each for general and specialized advisory committees. A sample was drawn from general and specialized committees serving the community colleges and for those serving the school districts. The sample was stratified by region and program.

A total of 380 questionnaires were mailed and 63 percent were returned in a usable form. The survey sought to determine the extent to which local advisory committees were advising on planning, implementation and evaluation of programs. The questionnaire listed

a series of activities related to these three functions and asked persons surveyed to check off those items their committee performed. Table 2.13 shows the extent to which respondents indicated that their committees were involved in the three areas.

The data show that the majority of the committees were not involved in the three areas. This was particularly true of the specialized committees. Less than 30 percent of the specialized committees were involved in planning and less than 25 percent were involved in implementation. About 35 percent were involved in evaluation.

These results suggest that advisory committees are not very effective in many cases. The reasons for this are not provided in the study. As will be noted later in this study, large employers can be persuaded to serve on advisory committees but their representatives are often not the key individuals involved in hiring. Is membership on a vocational advisory committee a public service or a company service? Thus, it would be useful to undertake a study of advisory committees to determine the extent to which advisory committee members are involved in hiring significant numbers of the completers from the programs to which they provide advice.

Conclusion

This chapter has examined the two formal means by which employers provide input to vocational education: the student follow-up survey and vocational advisory committees. The statistical design of the follow-up survey appears to be unsatisfactory and little useful information is obtained. A more intensive survey of a small number of completers

TABLE 2.13

PERCENT REPORTING PERFORMANCE OF THREE CATEGORIES OF ACTIVITIES -- BY TYPE OF COMMITTEE AND TYPE OF DISTRICT (PERCENT)

Type of Committee and Activity Category	School District Committees	Community College Committees
General Committees		
Planning	49.2	43.5
Implementation	51.0	38.1
Evaluation	43.3	28.3
Specialized Committees		
Planning	30.3	26.1
Implementation	23.2	26.4
Evaluation	36.4	33.9

carried on over a period of years is an alternative design that is worth considering.

The other means of obtaining employer input is through the network of vocational advisory committees. A recent study by the Florida State Advisory Council shows that these are not very actively involved in vocational planning, implementation and evaluation. A study of committee members to determine the extent to which they undertake significant hiring of completers is needed. Do the employers view the committees as a public rather than company service?

CHAPTER 3. SURVEY METHODOLOGY

In order to obtain the views of business and industry on the vocational education system in Florida, a statewide survey of employers was undertaken. The methodology followed in the survey is discussed in this chapter. The first section contains a description of the sources and procedures used to select the Florida enterprises interviewed. This is followed by a discussion of the design of the sample instruments. The chapter concludes with a summary of the questions on the instruments.

Selection of Firms for Interview

As of 1979, the latest year for which data are available, there were 209,012 business establishments in the state of Florida (Table 3.1). An establishment is a place of business, and a single firm may have more than one establishment. The establishments of Table 3.1 do not include farm enterprises, and some governmental activities. In addition, some self-employed individuals do not have establishments. Nevertheless, the overwhelming bulk of potential employers of vocational education completers will be found at the establishments of Table 3.1.

Given the large number of establishments, some sampling procedure was necessary. Because it was decided to collect the data by personal interview, it was clear that the population should be "censored", that is, the sample should be drawn from larger firms. The cost of undertaking personal interviews of small firms would far

TABLE 3.1

EMPLOYMENT AND ESTABLISHMENTS BY INDUSTRY IN FLORIDA (1979)

	Employment		Establishments		Large Establishments[1]	
	Number	Percent	Number	Percent	Number	Percent
gricultural Services, orestry, Fishing	23,683	0.83	2,702	1.29	62	0.65
ining	10,673	0.38	253	0.12	40	0.42
ontract Construction	251,816	8.86	21,655	10.36	755	7.86
anufacturing	445,976	15.69	10,911	5.22	1,647	17.14
ransportation and ther Public Utilities	197,360	6.94	6,365	3.05	668	6.95
holesale Trade	190,319	6.70	15,898	7.60	601	6.26
etail Trade	723,124	25.44	56,435	27.00	2,738	28.50
inance, Insurance, eal Estate	239,814	8.44	21,626	10.35	845	8.79
ervices	729,576	25.67	60,211	28.81	2,136	22.23
ther	30,125	1.06	12,976	6.21	116	1.21
otal	2,842,466	100.00	209,012	100.00	9,608	100.00

[1] Firms with at least 50 employees in mid-March 1979

Source: County Business Patterns, Table 1A.

exceed the benefits, since the number of Florida vocational education completers in any small firm would be insignificant.

Trade is the largest industrial employer in Florida, followed by services and manufacturing (Table 3.1). Construction, finance, insurance and real estate, and transportation and other public utilities are also significant. In terms of the number of establishments, trade and services are even more important relative to manufacturing; this reflects the relatively large size of manufacturing establishments.

Table 3.1 also shows the distribution on large establishments in the state. A large establishment was arbitrarily defined to be one with at least 50 employees. Only 9,608 of the 209,012 Florida establishments are large (less than five percent). A relatively large proportion of these are to be found in manufacturing and trade. There also are a considerable number in services, finance, insurance and real estate, contract construction, and transportation and other public utilities.

The large establishments accounted for 1,208,183 of the state's total employment figure of 2,842,466 or slightly less than 50 percent. Thus, sampling from a small number of large firms is an efficient method of gathering information about a large number of employees. However, small firms may have different views about vocational education.

The industrial classification scheme in Table 3.1 is very broad. In order to obtain more information on the large establishments a breakdown of the industry groups is required. Such information for manufacturing is provided in Table 3.2. The relatively more important

TABLE 3.2

MANUFACTURING ESTABLISHMENTS IN FLORIDA (1979)[a]

	Establishments		Large Establishments	
	Number	Percent	Number	Percent
Food	657	0.31	201	2.09
Tobacco	37	0.02	9	0.09
Textiles	110	0.05	22	0.23
Apparel	1,067	0.51	188	1.96
Lumber	1,097	0.52	120	1.25
Furniture	519	0.25	56	0.58
Paper	157	0.08	57	0.59
Printing	1,726	0.83	113	1.18
Chemicals	409	0.20	69	0.72
Petroleum & Coal	50	0.02	7	0.07
Rubber & Plastics	429	0.21	63	0.66
Leather	72	0.03	20	0.21
Stone, Clay, Glass	621	0.30	75	0.78
Primary Metals	117	0.06	35	0.36
Fabricated Metals	875	0.42	143	1.49
Nonelectric Machinery	989	0.47	106	1.10
Electric, Electronic Machinery	432	0.21	130	1.35
Transportation Equipment	561	0.27	113	1.18
Instruments	223	0.11	41	0.43
Other	763	0.37	79	0.82
Total	10,911	5.22	1,647	17.14

[a]Firms with at least 50 employees in mid-March 1979.

Source: County Business Patterns, 1979. Table 1A.

industry divisions in terms of establishment size are food, apparel, lumber, printing, fabricated metals, machinery and equipment.

The most important industry divisions in transportation and other public utilities are trucking and warehousing, communications, electric, gas, and sanitary services (Table 3.3). Banking, credit, insurance, and real estate are the most important large establishments in the finance, insurance and real estate area (Table 3.4). Hotels, business services, amusements and health services are the most important large service establishments (Table 3.5). Hospitals are the big establishments in the health area.

The original design for this research study called for the use of the Division of Employment Security ES202 data file as a sampling universe. A change in policy by the Division, however, has made the ES202 file unavailable for researchers. Thus, the universe for this study had to be compiled from a variety of directories and other sources. The most important sources were The Florida Industries Guide, and The Directory of Florida Industries. These were supplemented with directories for banks, hospitals, life insurance companies, hotels and motels, television stations, moving companies, telephone companies and homes for the aging. Towards the end of the survey a directory of retail stores was obtained.

In each source, a cutoff was established to define large establishments. In addition, only establishments located in the large urban areas were included in the sampling universe. As shown in Table 3.6, the Standard Metropolitan Areas of Florida account for 90 percent of statewide employment and almost 90 percent of the large

TABLE 3.3

ESTABLISHMENTS IN TRANSPORTATION AND OTHER PUBLIC UTILITIES (1979)[a]

	Establishments		Large Establishments	
	Number	Percent	Number	Percent
Local and Inter-urban Transit	370	0.18	35	0.36
Trucking and Warehousing	2,074	0.99	134	1.39
Water Transportation	492	0.24	46	0.48
Air Transportation	459	0.22	85	0.88
Transportation Services	1,444	0.69	28	0.29
Communications	895	0.43	231	2.40
Electric, Gas and Sanitary Services	536	0.26	100	1.04
Other	95	0.05	9	0.09
Total	6,365	3.05	668	6.95

[a]Firms with at least 50 employees in mid-March 1979

Source: County Business Patterns, 1979. Table 1A.

TABLE 3.4

ESTABLISHMENTS IN FINANCE, INSURANCE AND REAL ESTATE (1979)[a]

	Establishments		Large Establishments[a]	
	Number	Percent	Number	Percent
Banking	1,070	0.51	308	3.21
Credit	2,844	1.36	114	1.19
Securities	488	0.23	9	0.09
Insurance Carriers	1,532	0.73	136	1.42
Insurance Agents	3,304	1.58	40	0.42
Real Estate	11,497	5.50	184	1.92
Other	891	0.43	54	0.56
Total	21,626	10.35	845	8.76

[a]Firms with at least 50 employees in mid-March 1979

Source: County Business Patterns, 1979. Table 1A.

establishments. Consideration of costs, therefore made sample only in these urban areas.

A total of 466 firms were selected for interview from the various directories and other sources. Of these, 20 were duplicates since

TABLE 3.5

ESTABLISHMENTS IN SERVICES 1979[a]

	Establishments		Large Establishments[a]	
	Number	Percent	Number	Percent
Hotels	3,205	1.53	459	4.78
Personal	7,560	3.62	97	1.01
Business	7,660	3.66	435	4.53
Auto Repair	4,628	2.21	46	0.48
Miscell. Repair	2,580	1.23	18	0.19
Motion Pictures	523	0.25	5	0.05
Amusements	2,188	1.05	171	1.78
Health	14,392	6.89	467	4.86
Legal	5,166	2.47	45	0.47
Educational	1,026	0.49	103	1.07
Social	2,435	1.17	107	1.11
Museums	60	0.03	1	0.01
Membership Orgs.	4,492	2.15	93	0.97
Other	4,296	2.06	89	0.93
Total	60,211	28.81	2,136	22.23

[a]Firms with at least 50 employees in mid-March 1979

Source: County Business Patterns, 1979. Table 1A.

TABLE 3.6

EMPLOYMENT AND ESTABLISHMENTS IN FLORIDA STANDARD METROPOLITAN AREAS 1979[a]

	Employment	Establishments	Large Establishments
Bradenton	32,578	2,826	105
Daytona	64,267	5,551	214
Fort Lauderdale	304,533	24,079	1,028
Fort Myers	54,245	4,743	167
Gainesville	34,637	2,881	105
Jacksonville	241,172	15,031	840
Lakeland	96,972	6,266	329
Melbourne	74,257	5,054	211
Miami	621,463	41,206	2,060
Orlando	234,223	14,885	815
Panama City	23,399	2,147	83
Pensacola	68,633	5,014	187
Sarasota	62,235	5,531	76
Tallahassee	36,798	3,356	111
Tampa	448,125	31,108	1,588
West Palm Beach	172,551	13,013	563
Total SMSA's	2,570,088	182,691	8,482
Total Florida	2,842,466	209,012	9,608
SMSA %	90.42	87.41	88.28

[a]Firms with at least 50 employees in mid-March 1979

Source: County Business Patterns, 1979. Table 1A.

they were selected from more than one source. A further 25 were not in business at the time of the survey so that the effective sample size was 421. A total of 284 firms were interviewed giving a response rate of 67.7 percent. The geographic distribution of the sampled firms is given in Fig. 1. The response rate could have been increased because 45 firms could not accommodate the interview at the time the survey team was in the area. Lack of resources prevented the team from making repeat visits to far off areas in the state. Typically, firms could not accommodate the interview because the personnel manager was unavailable at the time of the appointment. As noted below, there were two survey instruments used in the study: one for survey managers and one to survey supervisors. The response rate on the supervisor survey was much smaller than on the manager survey.

Design of the Survey Instruments

Vocational education programs in Florida are available at the secondary and post secondary levels and from public and private educational institutions. Enrollment in public vocational education program areas at all levels is given in Table 3.7. The largest program areas are office and trade and industrial courses.

Many courses are not designed to train students for jobs, however, and these programs were excluded from this study. Examples are the courses in the consumer and homemaking areas. Slightly under 50 percent of the enrollment is in the job preparatory programs, and almost 50 percent of the latter is in the office area. In addition to sizeable enrollment in classes designed to prepare students for trade

Figure 1

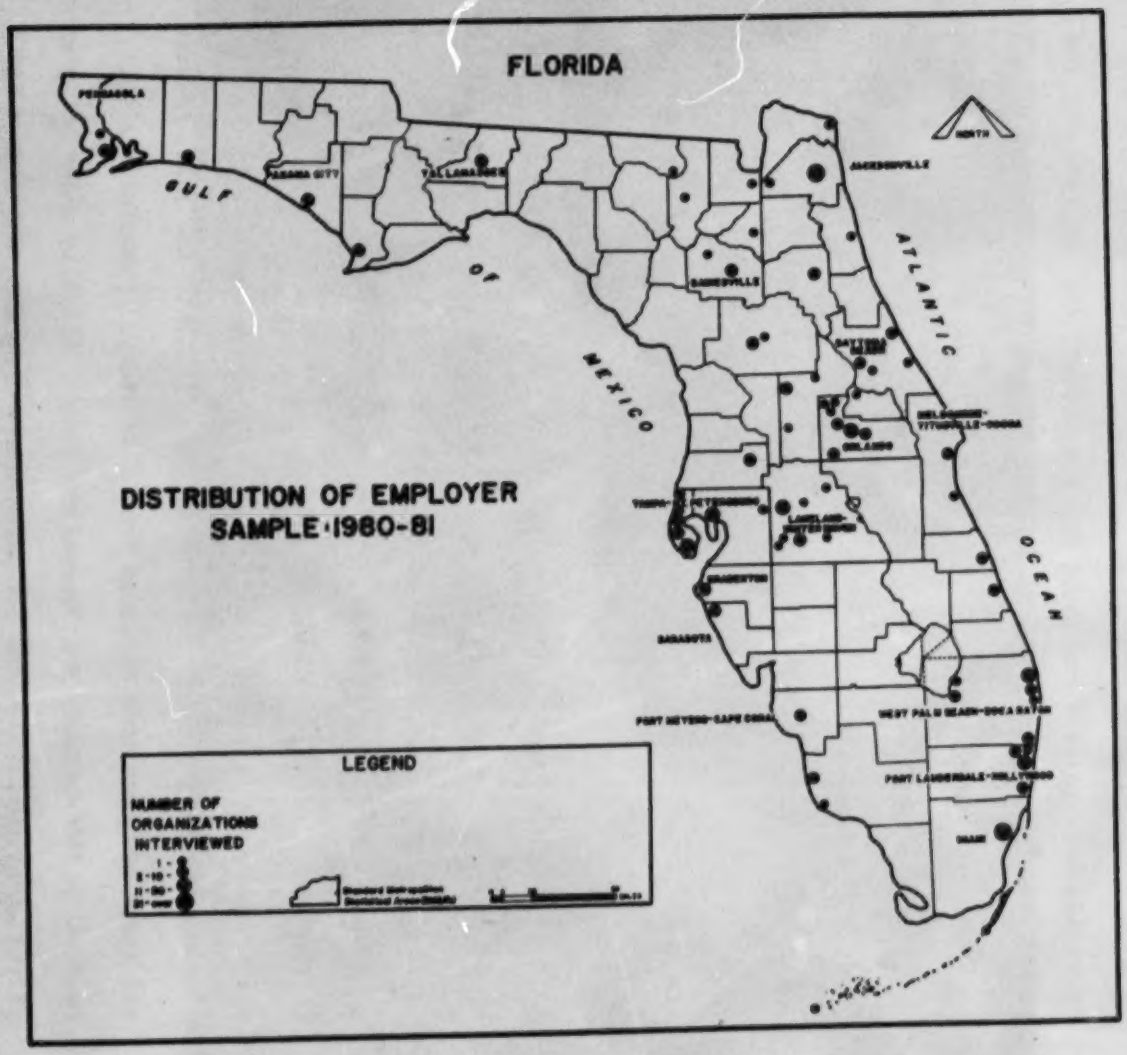

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TABLE 3.7

ENROLLMENT IN AND LABOR SUPPLY FROM FLORIDA PUBLIC VOCATIONAL PROGRAMS 1979

	Enrollment							
	Total	%	Job Preparatory	%	Job Preparatory Completions	%	Supply	%
Agriculture	55,184	4.8	34,918	6.6	3,884	3.7	2,557	3.6
Distributive	71,313	6.2	61,440	11.7	23,265	22.0	15,464	21.6
Health	74,365	6.4	27,923	5.3	9,936	9.4	7,257	10.1
Consumer and Homemaking	111,002	9.6						
Home Economics Gainful	142,676	12.4	33,305	6.3	5,061	4.8	3,165	4.4
Office	281,156	24.4	242,597	46.2	40,037	37.9	26,134	36.5
Public Service	26,593	2.3	14,155	2.7	2,771	2.6	2,013	2.8
Trade and Industrial	264,123	22.9	110,975	21.1	20,690	19.6	15,027	21.0
Other	126,012	10.9						
Total	1,152,424	100.0	525,313	100.0	105,644	100.0	71,617	100.0

Source: Derived from Schultz and Stronge 1979, Chapters 2 and 3

and industrial occupations, there is sizeable enrollment in the distributive area. Thus, the main focus of the survey of business and industry was to obtain their views of how the job preparatory programs meet their labor market needs. This required particular emphasis on the office, trade and industrial, and distributive programs.

The health programs are also important to employers, because their share of vocational output is considerable when completion rates are taken into account. Enrolling in a program is not the same as completing it in vocational as in all other areas of education. Completions amount to about 20 percent of job preparatory enrollment. The completion rate in health (and distributive) occupations is much higher than in other areas. Hence, health occupations were clearly important for this study.

Finally, it should be noted that some individuals who have not completed a program have job entry skills, and that some individuals who complete a program choose not to enter the labor market. Thus, the supply of labor from vocational education differs from the number of completers. In 1979, the system supplied 71,617 persons to the labor market in Florida. This amounted to slightly over 6 percent of total enrollment in public vocational education at all levels.

Not only does vocational education supply a relatively small number of its enrollees to the labor market, but the latter account for a relatively small part of employment. This is best explained by an example, Stronge and Schultz (1979) estimated the contribution of vocational output to labor supply in Southeast Florida. Table 3.8 is

derived from several tables in tneir report. They estimated that approximately 63,000 people obtain new jobs each year in that region. This excludes job and occupational migration, wherein people already employed in the region change jobs. About 70 percent of the new jobs are filled by the output of the local educational system, and the remainder are filled by new residents of the region. About one-third of educational output is supplied by vocational programs, so that one in four new jobs in the region are filled by students from vocational education programs. From the viewpoint of an employer, however, the share of students from vocational programs as new hires is much smaller. This is because of job turnover. Some fields such as clerical office occupations tend to have relatively high turnover rates, so that new jobs or replacements for retirements and other separations may be a relatively small fraction of new hires. Nevertheless, these field tend to be important for vocational completers.

It is clear that to obtain information from employers on vocational completers and, hence, vocational programs a distinction should be drawn between new hires and the total labor force. Recent vocational completers are likely to be a very small fraction of the total labor force, and if completers from all years are included, program changes and other sources of training cannot be taken into account. In addition, most vocational completers are at entry level positions and so such hiring should be the focus of data collection.

Survey Instruments

The two questionnaires used in this study are presented in the appendix. The first questionnaire was administered to individuals

TABLE 3.8

VOCATIONAL EDUCATION AND THE SUPPLY OF LABOR IN SOUTHEAST FLORIDA

Source		Number	Demand	Number
Vocational Education:	Vocational Enrollment	282,000	New Jobs due to Economic Growth	38,000
	Job Preparatory Enrollment	71,000	Openings for Replacements	25,000
	Vocational Supply	20,000		
	Supplied to the Local Market	16,000		
Other Education:	Supplied to the Local Market	20,000		
Geographic Net Immigration		27,000		
	Total Supply	63,000	Total Demand	63,000

Source: Derived from Schultz and Stronge, 1979, Chapters 2 and 3.

such as personnel managers during a personal interview. This questionnaire gathered information in three areas. First, respondents were asked about their familiarity with vocational education in the region. They were asked the extent to which they had been in personal or telephone contact with vocational teachers or administrators in the local high schools, community colleges or area vo-tech centers.

A second group of questions sought to determine the respondents' involvement with the local vocational system. The respondent was asked to supply the number of vocational education students hired by program area and the extent to which vocational education was a requirement for hiring. The respondent was also asked the extent to which the enterprise provided financial assistance to employees enrolled in vocational education, and whether he or she participated in a cooperative education program. Finally, the respondent was asked whether he or she served on an advisory committee for vocational education, or was involved with the vocational system in some other way (Career Days, etc.).

The third group of questions were designed to obtain opinions from the respondent. A question asked the extent to which local public vocational education met the respondents' needs given the students in its programs and the amount of funding it received. This was followed by a series of questions designed to obtain the respondents' suggestions for improving the system.

Larger firms were asked t name supervisors to fill out a separate questionnaire evaluating the job performance of vocational education completers. The supervisors were asked to evaluate the

equipment familiarity, technical competence, work habits, and numeric/communication skills of vocational completers compared to others.

CHAPTER 4. A SURVEY OF BUSINESS AND INDUSTRY

This chapter describes the sample of business and industrial employers who provided data for the study. A total of 284 firms participated in the employer interviews; 44 interviews with supervisors were undertaken. The first two sections of the chapter contain a description of the employer firms and the person interviewed. This is followed by a description of manpower and training programs in the sampled firms and an analysis of the firms' degree of contact with the vocational education system.

Description of Sampled Firms

Most of the firms that participated in the employer survey were in manufacturing, services, finance, insurance and real estate or transportation or utilities (Table 4.1). Most were located in the Southeast or Southwest Florida market areas (Florida Statistical Abstract, 1980 p.14) but significant numbers were located in Northern and Central Florida.

The geographical distribution of firms in the sample is not substantially different from the population distribution. However, the industrial distribution of the sample is not truly representative of the population. Only a very small number of sampled firms were from wholesale or retail trade, the largest industry in the state. Similarly, construction firms were also underrepresented.

The distribution of firms by industry is not the crucial distinction for an analysis of vocational education programs, however. The latter are oriented towards occupations rather than industries.

TABLE 4.1

DISTRIBUTION OF SAMPLED FIRMS BY INDUSTRY AND REGION

Industry	No. of Firms	Percent	Region	Percent
Agriculture	0	0.0	Northeast	18.4
Mining	2	0.7	Northwest	7.8
Construction	1	0.4	Central	14.8
Manufacturing	102	35.9	Southeast	32.5
Transportation and Utilities	39	13.7	Southwest	26.5
Trade	3	1.1	Total	100.0
Finance, Insurance, Real Estate	62	21.8		
Services	75	26.4		
Total	284	100.0		

Thus, what is important is whether or not all occupational areas were covered in the sample. The number of firms with employees in the different occupational areas are given in Table 4.2.

The distribution of sampled firms by occupational area is given in Table 4.2. The data show that significant numbers of firms were interviewed in each occupational category. In particular, 36.6 percent of the firms interviewed had employees in the distributive area so that the small number of retail firms did not prevent information from being collected on retail occupations.

The average firm had a labor force of 627 (Table 4.3), and almost half of these were in the industrial area. A sizeable number were in business occupations, and significant numbers were in the distributive and health area. Not all firms, however, hire in all the occupational areas. When this is taken into account, the relatively small number of employees in the agribusiness, home economics, and public service occupations are significantly increased. The numbers were small because many firms have no employees in these areas.

It was noted in the last chapter that vocational completers can be expected to be a small fraction of the labor force in most enterprises. Further, as completers accumulate seniority, they acquire on the job training and other useful work experience. For these reasons, this study focuses on vocational completers during their initial employment.

Employers were asked to estimate the number of entry level employees by occupation in their work forces, the number hired last

TABLE 4.2

THE NUMBER OF FIRMS WITH EMPLOYMENT IN THE OCCUPATIONAL AREAS

Occupational Area	Number of Firms	Percent
Agriculture	19	6.7
Business	254	89.4
Distributive	104	36.6
Health	52	31.8
Home Economics	42	14.8
Industrial	200	70.4
Public Service	83	31.0

TABLE 4.3

AVERAGE NUMBER OF EMPLOYEES IN EACH OCCUPATIONAL AREA IN THE ENTIRE SAMPLE AND IN THOSE FIRMS WHICH EMPLOY PEOPLE IN THE OCCUPATIONAL AREA[a]

	Average Number of Employees in	
Occupational Area	All Firms	Firms Which Employ This Occupation
Agriculture	8	118
Business	179	198
Distributive	69	186
Health	54	244
Home Economics	13	85
Industrial	305	428
Public Service	7	23

[a]The average firm had a labor force of 627 employees.

year at this level, and the percentage of the latter who were Florida public vocational education completers.

Once completers get beyond the entry level of employment, valid comparisons with other employees are extremely difficult to make because of on the job training and work experience differences. Thus, comparisons between the two groups are usually made at the entry level.

Two hundred and seventy of the sampled firms had employees at the entry level (Table 4.4). Most of these had such employees in the business and industrial occupations, although a sizeable number had such employees in the distributive area also. The average number of entry level employees across the 270 firms was 172 with the largest number of entry level positions in the health area.

Not all employees at the entry level have been hired in the most recent year. Two hundred and fifty-two of the sampled firms had hired at the entry level in the previous year (Table 4.5). Once again, most of these had hired in the business and industrial areas. Although most firms hired in the business occupations area, a relatively small percentage came from public VTE in Florida. Some employees come from outside the state, some came from private programs, and some came from other firms. There tends to be relatively high turnover in clerical occupations.

Firms hiring in the health occupations area rely more on VTE than other firms. This presumably reflects the certification requirements for such occupations. The industrial occupations are not likely to have certification requirements, but Florida public VTE does provide a significant portion of new entry level employees.

TABLE 4.4

AVERAGE ENTRY LEVEL EMPLOYMENT BY FIRM

	Number of Employees	Number of Firms
All Firms	172	270
Entry Level Agricultural Employment Averaged Across Firms with Such Employees	90	15
Entry Lveel Business Employment Averaged Across Firms with Such Employees	59	204
Entry Level Distributive Employment Averaged Across Firms with Such Employees	74	63
Entry Level Health Employment Averaged Across Firms with Such Employees	142	33
Entry Level Home Economics Employment Averaged Across Firms with Such Employees	56	30
Entry Level Industrial Employment Averaged Across Firms with Such Employees	107	155
Entry Level Public Service Employment Averaged Across Firms with Such Employees	18	48

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TABLE 4.5

AVERAGE NEW ENTRY LEVEL HIRES AND THE PERCENT FROM VOCATIONAL EDUCATION

	Number Hired	Number Firms	Perce From
All Firms	109	252	20.
Entry Level Hires in Agricultural Occupations Averaged Across Firms with Such Hires	47	11	7.
Entry Level Hires in Business Occupations Averaged Across Firms with Such Hires	39	180	13.
Entry Level Hires in Distributive Occupations Averaged Across Firms with Such Hires	85	53	8.
Entry Level Hires in Health Occupations Averaged Across Firms with Such Hires	83	30	40.
Entry Level Hires in Home Economics Occupations Averaged Across Firms with Such Hires	49	26	9.
Entry Level Hires in Industrial Occupations Averaged Across Firms with Such Hires	90	139	23.
Entry Level Hires in Public Service Occupations Averaged Across Firms with Such Hires	10	36	10.

Description of the Person Interviewed

Firms selected for interview were first contacted by letter and asked to designate the individual most involved in hiring new employees for the interview. As a result, over 86 percent of the interviews were conducted with a personnel or human resources director (Table 4.6). One of the most significant findings of this survey is that over 70 percent of such individuals obtained that position in the last five years. This can be a major problem for a vocational education system that relies on employer feedback to improve its programs. Significant turnover in the personnel occupations in local business and industry will make it difficult for VTE directors to maintain the required working relationship. In addition, new personnel directors may not be able to provide useful feedback. The small number of years that the official interviewed had held his or her position contrasts with the relatively large number of years that the firm had been located in that region of the state.

TABLE 4.6

CHARACTERISTICS OF THE EMPLOYERS INTERVIEWED

Position	Percent	Years in the Position	Percent	Years Firm has been in the Region	Percent
Owner	0.0	1- 5	70.0	1-10	18.3
General Manager	13.1	6-15	24.7	11-40	51.5
Personnel Official	86.9	16+	4.8	41+	30.2
Total	100.0	Total	100.0	Total	100.0

Manpower and Training Programs in Sampled Firms

Respondents were also asked for information about the manpower and training programs of their company. The first question asked them to list the occupations for which they require completion of vocational programs as a condition of employment. The results are given in Table 4.7. Over one-third of employers listed at least one occupation for which they required such training. This percentage is probably low, because only one in nine listed a business occupation. Employers interpreted this question in terms of certification rather than training. No employer will hire a typist who cannot type, but few require some certificate of completion of an office program as a condition of employment.

Employers were also asked the extent to which they provide financial assistance to employees enrolled in public vocational education (Table 4.8). Less than one in five employers provide such assistance. Most assistance is given to employees in the business, industrial and health programs.

Many employers have in-house formal training programs. The average firm in the sample allocates 1.26 percent of the time of their labor force to such training. A high proportion of employees in the public service occupations receive such training. The demand for the services of individuals in such occupations (security, fire protection and so on) is not continous and companies may require training during slack periods. Significant formal training is also provided in the business and industrial occupations.

TABLE 4.7

PERCENT OF FIRMS REQUIRING VOCATIONAL TRAINING

Percent of Firms Requiring Vocational Training For:	Percent
Some Occupation	33.8
Agricultural Occupations	0.0
Business Occupations	11.3
Distributive Occupations	1.8
Health Occupations	9.9
Home Economics Occupations	1.1
Industrial Occupations	16.2
Public Service Occuaptions	1.4

TABLE 4.8

PERCENT OF FIRMS PROVIDING FINANCIAL ASSISTANCE TO EMPLOYEES ENROLLED IN VOCATIONAL PROGRAMS

Percent of Firms Providing Financial Assistance to Employees Enrolled in Vocational Programs For:	Percent
Some Occupation	18.3
Agricultural Occupations	1.1
Business Occupations	8.5
Distributive Occupations	1.8
Health Occupations	5.3
Home Economics Occupations	0.0
Industrial Occupations	7.7
Public Service Occupations	0.7

TABLE 4.9

PERCENT OF LABOR FORCE TIME
ALLOCATED TO IN-HOUSE FORMAL TRAINING[a]

Percent of Labor Force Time Allocated to In-House Training for:	Percent of Time
Some Occupation	1.26
Agricultural Occupations	0.04
Business Occupations	1.37
Distributive Occupations	0.79
Health Occupations	0.50
Home Economics Occupations	0.17
Industrial Occupations	1.27
Public Service Occupations	10.26

[a]The figures in this Table are estimates obtained by the following formula:

$$\text{Percent of Time} = \frac{\text{(Employees X Work days) in Training}}{\text{Total Employees X 240 days}}$$

Employer Contact with Vocational Education

Employers were asked if they had had contact with a public vocational teacher or administrator. The results are given in Table 4.10. Forty percent of those interviewed had not had contact with a high school vocational teacher or administrator, and one out of three respondents had had only one contact. These results suggest that key employers are not significantly involved in vocational education in their local high schools. It is noteworthy, however, that the rela-

tively small number of employers who are involved are more intensely involved with the high schools than the other institutions. Thus, 13.6 percent of employers listed at least four contacts with local high schools.

Not all counties have community colleges, so that some employers might be significant distances form the nearest colleges. This is even more true of areawide vocational centers. (Some of the community colleges also function as areawide centers.) Nevertheless, the picture is not much different than the high school case. A large proportion of employers have never had contact with the vocational institutions; most of those who had contact listed only one such contact.

The employers who had contact with high schools and community colleges usually made contact with teachers or administrators in the business occupations area (Table 4.11). Distributive occupations were also important at the high school level. Most contacts with the areawide vocational centers were with individuals involved in the industrial occupations. Health occupations were also significant at the centers and at the community colleges.

Another way in which employers can be involved in vocational education is by serving on an advisory committee for a vocational institution or program. Almost one out of every two sampled organizations served on such a committee (Table 4.12). However, the particular individual interviewed was not the individual who served on the committee in many cases.

Employers may also be involved in the vocational education sys-

TABLE 4.10

PERCENT OF EMPLOYERS
WHO HAD CONTACT WITH VOCATIONAL INSTITUTIONS[a]

No. of Contacts	High Schools	Community Colleges	Areawide Centers
0	40.0	38.8	47.0
1	33.2	51.2	38.4
2	6.4	8.2	8.9
3	6.8	1.4	3.6
4+	13.6	0.4	2.1

[a]Over 90 percent had contact in person or by telephone.

TABLE 4.11

WHICH PROGRAM AREAS HAD BEEN CONTACTED BY RESPONDENTS [a]

	High School	Community Colleges	Areawide Centers
Agriculture	0.0	0.0	3.8
Business	53.1	47.7	14.8
Distributive	21.9	13.6	6.6
Health	6.3	15.9	14.8
Home Economics	0.0	0.0	3.3
Industrial	9.4	15.9	50.0
Public Services	0.0	0.0	1.6
All Program Areas	9.4	6.8	8.2

[a]Column one of this Table shows that 53.1 percent of those who had contacted high schools had made the contact with a teacher or vocational administrator in a business program, 21.9 percent had made contact with a distributive program and so on.

TABLE 4.12

PERCENT OF SAMPLED FIRMS
WITH A REPRESENTATIVE ON A LOCAL VOCATIONAL ADVISORY COMMITTEE

	Percent
Representative on a Committee	44.7
No Representative on a Committee	55.3

TABLE 4.13

PERCENT OF SAMPLED FIRMS
INVOLVED IN OTHER WAYS WITH VOCATIONAL EDUCATION

	High School	Community College	Areawide Centers
Participate in Career Days	26.1	1.4	6.7
Involved Through Employer Organizations	3.9	4.2	4.6
Other Involvement	6.4	1.4	1.5

TABLE 4.14

OPPORTUNITY TO GET INVOLVED IN
VOCATIONAL EDUCATION ?

	Percent
Have Adequate Opportunity	69.5
Have Inadequate Opportunity	30.5

tem in a number of other ways. Some of these are detailed in Table 4.13. The most frequently mentioned of these other means of involvement was a Career Days program, particularly at the high schools. More than one in four of the organizations interviewed participate in such a program. Another means of contact came through employers associations such as the Chamber of Commerce and CETA Private Industry Councils. Contact through such organizations was relatively insignificant for the firms interviewed as part of this study.

In conclusion, the results presented in this section show contact between "the person most responsible for hiring" and the local vocational education system is less than might be expected. A high proportion of respondents had never been in contact with a vocational teacher or administrator. Over fifty percent of the respondents did not belong to an organization with a member on an advisory committee. Contacts through other programs (Career Days, Industry Organizations) also did not involve a majority of the employers. However, it should be remembered that a high proportion of those interviewed were relatively new to their positions. In addition, almost 70 percent of those interviewed believed that they had adequate opportunity to get invloved (Table 4.14).

CHAPTER 5. BUSINESS AND INDUSTRY VIEWS OF FLORIDA PUBLIC VOCATIONAL EDUCATION

This chapter contains the results of a survey of employers of Florida public vocational education completers. The employers sampled were from the large business establishments and such establishments account for about fifty percent of employment in the state. The respondent was usually a personnel official. A detailed description of the sample is given in the previous chapter.

The first section of the chapter reports the evaluation by these employers of the extent to which the public vocational education in the state meets their labor market needs. The second part of the chapter reports the suggestions employers have for improvements in Florida public vocational education. The chapter concludes with the results of a small survey of supervisors.

Evaluation of the Vocational System by Region, Industry, and Firm Size

Employers were asked to provide their overall evaluation of public vocational education through the following question:

> As you know, one of the functions of public vocational education is to train students for occupations available in the region. How well does the public vocational education system meet your needs, given the students in its programs and the funding it receives?

The responses to the question were a collection of categories: poor, fair, good, excellent and no opinion. The results are given in Table 5.1. Almost 80 percent of those interviewed had an opinion about the extent to which vocational education met their labor force needs. Most of these rated the system excellent or good, but one in three

TABLE 5.1

EMPLOYER EVALUATIONS OF VOCATIONAL EDUCATION

	Percent Rating the System as:				
	Excellent	Good	Fair	Poor	No Opinion
All Firms	13.3	31.0	22.9	10.7	22.1
Northeast	16.7	27.1	29.2	2.1	25.0
Northwest	23.8	42.9	19.0	0.0	14.3
Central	12.5	35.0	22.5	7.5	22.5
Southeast	5.7	19.3	25.0	26.1	23.9
Southwest	17.8	41.1	27.8	2.7	20.5

employers rated the system as poor or fair.

Significant differences in employer evaluations occurred by geographical region. The counties of the state were divided into five regions with similar economic structures (Florida Statistical Abstract 1980 pp. 13-15). The definitions of the regions are given in Table 5.2, and the evaluations by region are given in Table 5.1. Three regions stand out: the Northwest and Southwest, where employers were more favorable than elsewhere in the state, and the Southeast, where employers were more critical than elsewhere. Over half the respondents from the Southeast felt that the system did a fair or poor job in meeting their labor market needs, whereas the proportion of respondents from the Northwest and Southwest who felt this way was about 20 percent. Considerably more than half the respondents from the Northwest and Southwest gave the system a good or excellent rating, whereas only one in four southeastern employers felt the same way.

Evaluations by industry are provided in Table 5.3. The number of interviews was only sufficient to provide acceptable estimates for manufacturing, finance, insurance and real estate, and services. Employers in the latter industry were more likely to provide an evaluation of the system than were employers from other industries, since only 11.8 percent had no opinion. Although the proportion of employers in the service industry who gave a fair or poor rating was about the same as in other industries, a much higher percent of service employers gave a good or excellent rating than was true for industry as a whole. There is also evidence that employers in finance,

TABLE 5.2

REGIONS IN FLORIDA

Region	Counties
Northwest	Bay, Calhoun, Escambia, Franklin, Gadsden, Gulf, Holmes, Jackson, Jefferson, Leon, Liberty, Madison, Okaloosa, Santa Rosa, Taylor, Wakulla, Walton, Washington
Northeast	Alachua, Baker, Bradford, Clay, Columbia, Dixie, Duval, Gilchrest, Hamilton, Lafayette, Levy, Marion, Nassau, Putnam, St. Johns, Suwanne, Union
Central	Brevard, Flagler, Lake, Orange, Osceola, Seminole, Sumter, Volusia
Southeast	Broward, Dade, Glades, Hendry, Indian River, Martin, Monroe, Okeechobee, Palm Beach, St. Lucie
Southwest	Charlotte, Citrus, Coller, Desoto, Hardee, Hernando, Highlands, Hillsborough, Lee,Manatee, Pasco, Pinellas, Polk, Sarasota

TABLE 5.3

	Percent Rating the System as:				
	Excellent	Good	Fair	Poor	No Opinion
Manufacturing	13.1	30.3	19.2	15.2	22.2
Finance, Insurance, and Real Estate	11.5	29.5	26.2	11.5	21.3
Services	17.6	36.8	27.9	5.9	11.8
All Industries	13.3	31.0	22.9	10.7	22.1

insurance and real estate were less favorable in their evaluation, although their responses were not substantially different from the rest of the industry.

The distribution of employment by industry in each of the five regional samples is given in Table 5.4 and it lends support to the view that the differences by industry in Table 5.3 and by region in Table 5.1 are conveying much the same information. The high ratings from the Northwest and Southwest, and from the service industry reflect the high percentage of firms interviewed in those regions which are in the service industry. Similarly, the low Southwest region evaluations reflect a large number of finance, insurance, and real estate relative to service firms.

Evaluations by size of firm are given in Table 5.5. The smallest firms contained a relatively larger number of employers who had no opinion about the vocational system. The middle sized firms were the most critical of vocational education, and the largest firms were the most favorable.

The size distribution of interviewed firms by industry is given in Table 5.6. The services industry, which tends to be favorable in its evaluation, is disproportionately important in the larger firm sizes which were also seen to be relatively favorable in their evaluation. Finance, insurance and real estate, which is somewhat negative in its evaluation contains very few large firms. Manufacturing contains relatively many midsized and large firms. It appears likely that large manufacturing firms give a positive evaluation, and midsized manufacturing firms give a negative evaluation.

TABLE 5.4

PERCENT OF EMPLOYMENT BY INDUSTRY IN FLORIDA REGIONS

	Northeast	Northwest	Central	Southeast	Southwest	All Regio
Manufacturing	34.6	18.2	40.5	38.0	37.3	36.0
Finance, Insurance and Real Estate	17.3	18.2	11.9	33.7	17.3	21.9
Services	26.9	36.4	23.8	18.5	33.3	26.1
All Industries	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 5.5

EVALUATIONS BY FIRM SIZE

Number of Employees	Percent Rating The System as: Excellent	Good	Fair	Poor	No Opinion
Up to 300	14.0	28.7	19.1	18.1	30.1
301-600	6.5	34.8	21.7	19.6	17.4
601-900	9.7	38.7	32.3	9.7	9.7
901+	18.0	30.0	24.0	12.0	16.0
All Firms	13.3	31.0	22.9	10.7	22.1

TABLE 5.6

SIZE DISTRIBUTION OF INTERVIEWED FIRMS BY INDUSTRY

Industry	Percent of Interviewed Firms in This Size Category: Up to 300	301-600	601-900	901+	All Firms
Manufacturing	23.4	51.1	46.9	54.0	36.5
Finance, Insurance and Real Estate	31.0	21.3	15.6	4.0	22.4
Services	22.1	21.3	37.5	30.0	24.9
All Industries	100.0	100.0	100.0	100.0	100.0

The size distribution of interviewed firms by region is presented in Table 5.7. The Southwest region contains relatively few midsized firms, and relatively many large firms. The Northwest region contains few midsized firms in the 301-600 employee range, although there are relatively many in the 601-900 range. The reverse is true in the Southeast region. This suggests that it is the smaller midsized firms that are most critical of vocational education.

TABLE 5.7

SIZE DISTRIBUTION OF INTERVIEWED FIRMS BY REGION

Region	Percent of Interviewed Firms in This Size Category				
	Up to 300	301-600	601-900	900+	Total
Northeast	17.2	14.9	22.6	18.0	100.0
Northwest	7.6	6.4	16.1	4.0	100.0
Central	16.6	17.0	12.9	12.0	100.0
Southeast	31.0	38.3	25.8	36.0	100.0
Southwest	27.6	23.4	22.6	30.0	100.0
All Regions	100.0	100.0	100.0	100.0	100.0

Employer Evaluations - By length of Time in Personnel Position and Degree of Contact with the System

It was noted previously that most personnel officials that were interviewed had obtained their position in the previous five years. Employer evaluations by length of time in the personnel position are given in Table 5.8. The most senior officials all had an opinion about the system and the majority rated it good or excellent. The least senior individuals contained a substantial number with no

opinion. Of those who made an evaluation, a majority were positive. A surprisingly large number of other officials expressed no opinion; those who did, were less favorable than the other employers.

It was also noted previously that employers differed by the degree of contact they had with public vocational education. Employers evaluations classified by the degree of contact are given in Table 5.9. Advisory committee members are more informed (or at least more likely to express an opinion) and are more favorable in their evaluations than are other employers. Similarly, employers who feel they have an adequate opportunity to get involved are more likely to express an opinion and their opinion is more likely to be favorable.

Moreover, when committee membership, and the question on opportunity to become involved are analyzed over regions, further insight into differences in employer evaluations is obtained (Table 5.10). The highest proportions of respondents who were members of advisory committees were in the regions with the most favorable evaluation of vocational education, Northwest and Southwest, and the lowest proportion was in the Southeast region where evaluations were lowest. Similar findings are in evidence for the question on opportunity to become involved. This finding provides strong support for the advisory committee system and, more generally, for greater involvement by business and industry in public vocational education.

Before concluding this section it should be noted that the key finding is that degree of involvement by employers is the critical determinant of their evaluation of public vocational education. It has been shown that this evaluation differs by industry, and such

TABLE 5.8

EMPLOYER EVALUATIONS BY LENGTH OF TIME IN POSITION (PERCENT)

	Percent Rating the System as:				
	Excellent	Good	Fair	Poor	No Opinion
Up to 5 years	13.4	32.6	22.1	10.5	21.5
6-10	14.0	25.6	25.6	7.0	27.9
11-15	0.0	35.7	21.4	14.3	28.6
16+	25.0	33.3	16.7	25.0	0.0
All	13.3	31.0	22.9	10.7	22.1

TABLE 5.9

EMPLOYER EVALUATIONS BY DEGREE OF CONTACT WITH VOCATIONAL EDUCATION (PERCENT)

	Percent Rating the System as:				
	Excellent	Good	Fair	Poor	No Opinion
Members of Advisory Committees	16.0	37.8	27.7	8.4	10.1
Adequate Opportunity to get Involved	14.8	37.8	28.1	6.7	12.6
All	13.3	31.0	22.9	10.7	22.1

TABLE 5.10

MEMBERSHIP OF ADVISORY COMMITTEES AND OPPORTUNITY TO GET INVOLVED BY REGION (PERCENT)

Region	Membership of Advisory Committees	Adequate Opportunity to get Involved
Northeast	40.4	68.4
Northwest	59.1	95.2
Central	45.2	61.3
Southeast	35.9	62.3
Southwest	46.7	71.9
Average	44.7	69.5

a finding appears to be valid. The most favorable industry, services, contains a large number of hospitals and other medical enterprises where involvement in vocational training is much more extensive than other industries. The students in nursing programs, for example, receive training outside the educational institution and in the enterprise (hospital) as part of their vocational programs. Such collaboration between employers and the vocational system is not found in most other industries.

Finance, insurance and real estate, the industry with the most negative evaluation, was shown to contain large numbers of relatively small enterprises, and it is difficult for the vocational system to get large numbers of small employers involved. The large manufacturers are also involved in vocational education and tend to be relatively favorable in their evaluation. Smaller manufacturers are less favorable.

Differences in employer evaluations by region should be interpreted carefully, because the industrial structure by region varies, and because the sampling procedure may be biased. In particular, one third of these employers that were interviewed in the southwestern region came from the services industry, and an even higher percentage of the northwestern employers were from services. On the other hand, only 18.5 percent of employers in the southeastern region were from services. These percentages do not necessarily reflect the correct distribution of employment in the region. In 1979, for example, services employment in the Fort Lauderdale, Miami and West Palm Beach SMSA's was 264 thousand out of 1.109 million or 23.8 percent. In contrast, services employment in the Fort Myers, Sarasota and Tampa-St. Perersburg SMSA's was 132 thousand out of 592 thousand, or 22.3 percent. The services industry is slightly more important in the southeastern region of Florida. The relative undersampling of this industry in southeastern Florida may be largely responsible for the less favorable evaluation received by vocational education in the region.

Employer Suggestions for Vocational Education

In the course of the interview employers were asked to make suggestions that they believed would assist vocational education in meeting their needs. A list of the types of suggestions and the employers responses is given in Table 5.11. On average, over one third of those interviewed responded yes to each suggestion in the list. The most popular suggestion was to increase employer input in the

system, and the least popular suggestion was to reduce or eliminate vocational programs. In fact, many employers would like to expand existing programs and to add additional programs in vocational education. At the same time, they feel that basic educational skills should be improved, particularly reading and writing. They would also like to see better work habits in vocational completers. Fewer than one in four employers was critical of the technical training of such students.

TABLE 5.11

EMPLOYER SUGGESTIONS FOR VOCATIONAL EDUCATION (PERCENT)

	Percent Responding:		
	Yes	No	No Opinion
Different Programs?	42.8	21.8	35.5
Expand Programs?	39.9	16.0	44.1
Eliminate Programs?	7.8	26.9	63.3
Improve Training?	23.5	24.3	51.9
Improve Work Habits?	41.2	19.9	39.0
Improve Reading/Writing?	52.0	13.0	35.0
Improve Numerical Skills?	42.8	18.6	38.7
More Employer Input?	57.2	20.5	22.3
Average	38.4	20.1	41.5

TABLE 5.12

PERCENTAGE OF EMPLOYERS MAKING SUGGESTIONS BY INDUSTRY

	Percent Responding Yes By Industry:			
	Manu-facturing	Finance, etc.	Services Services	All Industries
Different Programs?	47.5	46.6	41.4	42.8
Expand Programs?	42.9	37.9	44.9	39.9
Eliminate Programs?	8.2	6.8	10.1	7.8
Improve Training?	24.7	22.8	25.7	23.5
Improve Work Habits?	39.6	55.2	39.1	41.2
Improve Reading/Writing?	48.5	68.3	51.5	52.0
Improve Numerical Skills?	42.3	51.7	38.2	42.8
More Employer Input?	63.2	66.1	49.3	57.2
Average	39.6	44.4	37.5	38.4

Employer suggestions differed substantially by industry (Table 5.12). Those in the industry giving the lowest evaluation to vocational education, finance, insurance and real estate, made the most suggestions. In addition to more employer input, those interviewed in this industry were particularly concerned about improving basic education skills and work habits. Manufacturing employers also wanted more input but they were particularly concerned also about the availability of appropriate programs. The industry most positive about vocational education, services, was the least concerned about employer input. They favored a change in program offerings and improved training.

TABLE 5.13

PERCENTAGE OF EMPLOYERS MAKING SUGGESTIONS BY REGION

	Percent Responding Yes by Region:					
	Northeast	Northwest	Central	Southeast	Southwest	All Regior
Different Programs?	16.3	38.1	38.5	57.8	45.1	42.8
Expand Programs?	18.4	42.9	37.8	46.1	46.5	39.9
Eliminate Programs?	6.1	4.8	2.8	13.3	5.6	7.8
Improve Training?	12.2	19.0	15.8	34.8	21.4	23.5
Improve Work Habits?	25.0	42.9	39.5	41.6	52.9	41.2
Improve Reading/Writing?	34.7	47.6	52.6	60.4	53.6	52.0
Improve Numerical Skills?	34.7	38.1	39.5	45.1	47.8	42.8
More Employer Input?	36.2	57.1	52.6	75.3	51.5	57.2
Average	22.9	30.9	34.9	46.8	40.6	38.4

By region, most suggestions were again made by the employers giving the lowest evaluation to the system (Table 5.13). The southeastern employers overwhelmingly favor greater employer input but they are also concerned about program offerings and basic education skills. The employers from the Southwest region are also concerned about program offerings, but they would also like to see improved work habits. These findings of differences by region probably reflect the industrial composition of the regional samples.

In the last section it was noted that midsize firms were more critical than larger firms of vocational education. In keeping with this evaluation they made more suggestions also (Table 5.14). The midsize firms would like to see different programs offered and are less likely to favor expansion of existing programs. They are more critical of the technical training received by vocational students, and are expecially concerned about improving reading and writing skills and work habits. Both groups of firms would like to see more employer input.

Advisory committee members made more suggestions than did nonmembers (Table 5.15). They favored expanding existing programs and adding new ones. In addition, they favor improved basic education skills on the part of vocational completers and more employer input. Nonmembers would also favor more employer input and improved basic education skills.

TABLE 5.14

PERCENTAGE OF EMPLOYERS MAKING SUGGESTIONS BY FIRM SIZE

	Percent Replying Yes by Firm Size:				
	Up to 300	301-600	601-900	901+	All Firms
Different Programs ?	33.1	58.1	50.0	50.0	42.8
Expand Programs ?	28.5	48.8	53.1	53.1	39.9
Eliminate Programs ?	7.2	7.0	6.3	6.3	7.8
Improve Training ?	20.4	25.6	34.4	20.4	23.5
Improve Work Habits ?	39.0	46.5	50.0	36.7	41.2
Improve Reading/Writing ?	45.3	63.6	59.4	55.1	52.0
Improve Numerical Skills ?	37.2	50.0	43.8	51.0	42.8
More Employer Input ?	51.5	65.1	59.4	62.5	57.2
Average	32.8	45.6	44.5	41.9	38.4

TABLE 5.15

PERCENTAGE OF EMPLOYERS MAKING SUGGESTIONS

BY ADVISORY COMMITTEE MEMBERSHIP

	Percent Replying Yes		
	Advisory Committee Members	Nonmembers	All Employers
Different Programs?	49.6	37.6	42.8
Expand Programs?	56.0	27.2	39.9
Eliminate Programs?	9.6	6.1	7.8
Improve Training?	31.6	17.1	23.5
Improve Work Habits?	47.8	36.1	41.2
Improve Reading/Writing?	60.7	46.6	52.0
Improve Numerical Skills?	50.7	37.8	42.8
More Employer Input?	59.1	57.2	57.2
Average	45.6	33.2	38.4

A Survey of Supervisors

Employers were asked to allow the interview team to administer a survey to supervisors. The purpose of this survey was to obtain the views of supervisors of the job performance of Florida public vocational completers compared to other employees. Firms were extremely reluctant to allow the survey team access to supervisors on the grounds that this would disrupt production. Many firms agreed to pass on the survey instrument to supervisors and to mail the responses. However, only a small fraction were returned. Some supervisors returned information on more than one occupational area. A total of 50 evaluations of occuaptional areas were received from 44 supervisors. The latter did not all come from different firms. Thus, the results presented in this section must be viewed as indicative rather than as representing the statistical population.

TABLE 5.16

NUMBER OF SUPERVISORS AND THEIR AVERAGE EMPLOYEES

Occupation	Respondents	Average Number of Employees
Business	18	20.5
Distributive	9	30.1
Health	10	141.4
Home Economics	1	5.0
Industrial	12	82.8

The average supervisor of business occupations supervised 20.5 employees (Table 5.16), while the average distributive supervisor was

in charge of 30.1 employees. The health and industrial supervisors were in charge of considerably more employees (141.4 and 82.8 on average, respectively). The data in Table 5.16 show that an insufficient number of responses were received in the home economics area.

Supervisors were asked to evaluate Florida public vocational completers compared to others in the same occupation. Four separate areas of job performance were evaluated on a four point scale ranging from poor (1) to excellent (4). The four areas were equipment familiarity, technical competence, work habits and basic educational skills. The results are provided in Table 5.17.

An "average" or middle value on the four point scale would be 2.50. The average ratings of employees over the reporting supervisors are given in Table 5.17. Supervisors considered the completers of Florida public vocational education to be more familiar with the required equipment than were other employees. Completers of health programs scored highest on this demension, and this probably reflects the on site training in Florida hospitals of Florida vocational students. Completers in the industrial occupations also scored substantially higher than other employees, but all employees in these occupations were less familiar with the acquired equipment than were those in the other areas. The equipment used by industrial employees may be changing more rapidly than in other occupations and it is probably more diverse.

Vocational completers were also regarded as more technically competent than other employees. This was true not merely for health

TABLE 5.17

EVALUATION BY SUPERVISORS OF FLORIDA PUBLIC VOCATIONAL COMPLETERS COMPARED TO OTHERS IN THE SAME OCCUPATION[a]

	Equipment Familiarity		Technical Competence		Work Habits		Basic Education	
	Voced	Others	Voced	Others	Voced	Others	Voced	Others
Business	2.55	2.47	2.57	2.43	2.52	2.70	2.56	2.74
Distributive	2.70	2.35	2.90	2.35	2.40	2.55	1.72	1.80
Health	2.87	2.17	2.81	2.12	2.87	2.38	2.75	2.38
Industrial	2.48	1.71	2.64	1.81	2.77	2.14	2.67	1.76

[a]The numbers represent an average score on a scale of one to four with one = poor and four = excellen

and industrial occupations but also in the distributive and, to a lesser extnet, in the business area. In terms of the primary mission of vocational education, therefore, this small sample of supervisors gives the system a relatively good rating. The vocational skills of completers are superior to those of other employees.

The favorable rating for vocational completers is not unanimous in the case of broader work performance, namely, work habits and basic education. Completers in the health and industrial occupations continue to score more highly than other such employees, although the gap between the two groups in narrower. Business and distributive completers, however, rate more poorly than other such employees.

These results are not inconsistent with the evaluations provided by the personnel directors. It may be recalled that employers in the service industry (health) were the most favorable in their evaluation of the system, and those in manufacturing (industrial) were relatively neutral. Employers in finance, insurance and real estate (business and distributive) were relatively negative and they were particularly concerned with the work habits and basic education of their employees.

APPENDIX

SURVEY INSTRUMENTS

CARD I.D # _____

FIRM _____ YEARS IN REGION ___ INDUSTRY _____

LOCATION _____ RESPONDENT _____

POSITION _____ YRS. IN POSITION _____ DATE _____ INTERVIEWER _____

Florida Atlantic University Vocational Education Survey

I. First, we would like to find out the extent of your familiarity with vocational education in Florida. Vocational programs are classes designed to prepare students for a particular occupation, or to provide them with a particular job skill. For example, as you know, such classes are offered by the public educational system, by private schools, and other organizations. We are interested in your familiarity, with Public Vocational Programs. In Florida, such programs are offered by the high schools, area-wide vocational centers, and community colleges.

1. Have you ever had any contact (met with, talked to, talked on the phone, or exchanged letters) with a teacher or administrator from a vocational program in a public institution in this region (labor market area)? [Possible reasons for contact: labor market needs, career days, specific vocational programs.]

Institution	Program	Met/Phone	Last Contact
High Schools			
Community Colleges			
Area Vo-Tech Centers			

2. Public institutions in this area offer a variety of vocational programs. For example, high schools offer secretarial classes, sales courses, and industrial occupations. In addition to these, Community Colleges and area-wide centers offer health and public service programs.

We would like to know the extent to which you hire students from these programs in entry level positions. Your best estimate is fine.

	Total Employees	Total Entry Level	Total Entry Level Hired Last Year	Percentage Who Came From Vocational Programs
Agribusiness (crop and animal production, ornamental horticulture)				
Business (secretarial, clerk, bookkeeping)				
Distributive (sales, hotel/motel services, finance and credit)				
Health (aide, technician, lab assistant)				
Home Economics (chef's training, quantity baking)				
Industrial (mechanics, body repair, electrical and electronics, operatives)				

	Total Employees	Total Entry Level	Total Entry Level Hired Last Year	Percentage Who Came From Vocational Programs
Public Service (firefighter, law enforcement, corrections)				

3. For which entry level occupations do you require completion of a vocational training program offered by public institutions, before hiring?

Occupation	Program Completion Required

4. For which occupations do you provide financial assistance to employees to upgrade their skills?

Occupation	Skill

5. Does your organization provide the opportunity for a co-op program that combines employment with vocational education or training? Yes No

If yes, which programs?

Program	School	Number of Students/Employees	How Long in Effect	Your Evaluation

6. Employees entering new occupations may be trained by: 1) those they are replacing, 2) co-workers, or 3) by instructors in a formal setting. For which occupations do you provide in-house formal training programs?

Occupation	Time Length Trainee In It	No. Trainees Last Year

7. We would like your opinion on the need for additional credentialing or licensure. It is usually argued that licensure ensures that minimum standards for the occupation are met. It is also argued that licensure sets up a barrier to entry in the licensed occupation, thereby reducing the potential supply of individuals in that occupation. Given these advantages and disadvantages of licensure, do you believe additional licensure is needed? Yes_____ No_____. If yes, what occupations do you have in mind?

Occupation	Reason

8. Some employers are involved in public vocational programs in an advisory capacity. We would like to know the extent of any involvement you may have had within the system over the past five years.

   a. Many VOC-ED programs have Advisory committees and Craft committees with employer representation. Have you or a member of your organization been a member of an Advisory or Craft Committee during this period? Yes_____ No_____

   If yes, please describe.

Program	Institution	Years of Membership	Was the Committee Active	Did the Comm. have an impact on the Program?

   b. If no, were you or your organization asked? Yes_____ No_____
   If yes to 8b, why did you not serve? _____

9. Has your organization been involved in some other way? Yes_____ No_____
   (e.g., through Career Days, Chamber of Commerce liason with Schools, Industry Groups, Association of Manufactures, Private Industry Councils [CETA]

   a. If yes, please describe.

Program	Institution	Years	Was there an impact	Brief Evaluation

   b. Do you feel there is an opportunity for you to get involved? If so, how?

_____

_____

_____

10. As you know, one of the functions of public vocational education is to train students for occupations available in the region. How well does the local public vocational education system meet your needs, given the students in its program and the funding it receives?

    poor fair good excellent no opinion

11. Have you suggestions for the vocational education system that would enable it to better serve your needs?

    a. different programs? yes no no opinion
    suggestions_____

    b. existing programs that need expansion? yes no no opinion
    suggestions_____

    c. programs that should be cut? yes no no opinion
    suggestions_____

    d. programs that provide inadequate training? yes no no opinion
    suggestions_____

    e. better work habits of completers? yes no no opinion
    suggestions_____

    f. reading and communication skills? yes no no opinion
    suggestions_____

    g. numeric skills of completers? yes no no opinion
    suggestions_____

    h. better coordination of the system with employers? yes no no opinion
    suggestions_____

    i. other_____

12. Does your organization use the services of the Florida State Employment Service for entry level positions? Yes No

If yes, for which occupations.

Occupation	# of hires last year

Ask, if number of entry level new hires exceed 10 in question 2.

13. We would like to obtain an evaluation of students hired from public vocational programs. Could we have your permission to talk to the supervisor of some employees in different occupations and may we have that person's name and telephone number?

Name and Telephone No. of Supervisor	Occupational Area

CARD ID # ____

FIRM _____ INDUSTRY _____

LOCATION _____ RESPONDENT _____

POSITION _____ YRS. IN POSITION _____ DATE _____ INTERVIEWER _____

Florida Atlantic University Vocational Education Survey

Supervisory Questionnaire

We are interested in your evaluation of the quality of the education received by the employees under your supervision who were previously in a public vocational training progr[illegible].

1. What occupations do you supervise and how many employees are in each occupation group?

Occupation	Entry Level	No. Employees	# Hires Last Year	How Many Have Completed a VOC-ED Pgm. Needed for this Occupation	Institutions in Fl. or out	Public or Private

2. Have you had contact with the teachers or administrators of any of the programs for these occupations?

If yes, what type of contact was it?

Occupation	Program	Type of Contact - Job Placement* for Completers Advisory Contact	Frequency of Contact
1.			
2.			
3.			
4.			

3. We would like to obtain your opinion of the education of your entry level employees who come from public vocational programs in Florida as compared to those employees who have not had vocational/technical training. There are four questions we need answered:

   A. What is the level of these employees familiarity with the standard equipment for their jobs?

   B. What is the level of their competence in the technical aspects of their assigned jobs?

   C. What is your evaluation of their work habits? By work habits we refer to such things as the reliability of the employee, pride in his or her work, and so on.

   D. What is your evaluation of their general numeric and communication skills?

Please answer these questions by indicating (circling) the appropriate description (poor, fair, good, or excellent) in the Table below. We have grouped your employees into standard vocational program categories. Please give us an evaluation of the typical entry level employee in each of the groups that apply to your business. Our interest is in those employees who have had vocational or technical (V/T) training in the public schools or colleges of Florida in comparison to those who have not had such training.

OCCUPATIONS			POOR	FAIR	GOOD	EXCELLENT
_____	A. Equipment Familiarity	V/T	P	F	G	E
		Others	P	F	G	E
	B. Technical Competence	V/T	P	F	G	E
		Others	P	F	G	E
	C. Work Habits	V/T	P	F	G	E
		Others	P	F	G	E
	D. Numeric/Communication	V/T	P	F	G	E
		Others	P	F	G	E
_____	A. Equipment Familiarity	V/T	P	F	G	E
		Others	P	F	G	E
	B. Technical Competence	V/T	P	F	G	E
		Others	P	F	G	E
	C. Work Habits	V/T	P	F	G	E
		Others	P	F	G	E
	D. Numeric/Communication	V/T	P	F	G	E
		Others	P	F	G	E
_____	A. Equipment Familiarity	V/T	P	F	G	E
		Others	P	F	G	E
	B. Technical Competence	V/T	P	F	G	E
		Others	P	F	G	E
	C. Work Habits	V/T	P	F	G	E
		Others	P	F	G	E
	D. Numeric/Communication	V/T	P	F	G	E
		Others	P	F	G	E
_____	A. Equipment Familiarity	V/T	P	F	G	E
		Others	P	F	G	E
	B. Technical Competence	V/T	P	F	G	E
		Others	P	F	G	E
	C. Work Habits	V/T	P	F	G	E
		Others	P	F	G	E
	D. Numeric/Communication	V/T	P	F	G	E
		Others	P	F	G	E
_____	A. Equipment Familiarity	V/T	P	F	G	E
		Others	P	F	G	E
	B. Technical Competence	V/T	P	F	G	E
		Others	P	F	G	E
	C. Work Habits	V/T	P	F	G	E
		Others	P	F	G	E
	D. Numeric/Communication	V/T	P	F	G	E
		Others	P	F	G	E

4. In comparison to your employees who have not had vocational or technical training in an educational institution do those employees who have had such training generally start work at a higher pay? Yes No

If yes, about how much higher? _____

5. We are also interested in the rate of advancement in terms of pay increases and/or job responsibilities of V/T completers compared to your other employees. Within each occupational category, do employees who have had vocational or technical training in Florida advance at a slower, same, or faster rate than those employees who have not had such training?

OCCUPATION			
_____	Slower	Same	Faster
_____	Slower	Same	Faster
_____	Slower	Same	Faster
_____	Slower	Same	Faster
_____	Slower	Same	Faster
_____	Slower	Same	Faster

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